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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/595,195

09/29/2006

Masahiko Ishida

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7590

12/31/2009

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EXAMINER

HOU, MICHELLE M

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

12/31/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/595,195	<b>Applicant(s)</b> ISHIDA ET AL.	
	<b>Examiner</b> MICHELLE HOU	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 18-23 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2,5-7,10-15,24 and 25 is/are allowed.
- 6) ☒ Claim(s) 1,3,4,8,9,16,17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

1. The amendment filed on October 22, 2009 under 37 CFR 1.312 has been entered.

## **DETAILED ACTION**

### ***Status of Application***

2. Claims 1-17, 24-25 are pending and are presented for examination. 18-23 claims are cancelled.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1,3,4,8,9,16,17 are rejected under 35 U.S.C. 102(b) as being anticipated by Kaner (US 6479028 B1).

Regarding applicant's claim 1, Kaner discloses a method of producing a carbon nanotube, comprising a one dimensional carbon structure, introducing a catalyst substance into a said one dimensional carbon structure; making catalyst substance move in said one dimensional carbon structure; and crystallizing a trail region of movement of said catalyst in said one dimensional carbon structure (Kaner, col3, 4).

Regarding applicant's claim 3, Kaner discloses a method of producing a carbon nanotube where carbon structure is heated when said catalyst substance is moved (Kaner, col3).

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Regarding applicant's claim 4, Kaner discloses a method of producing a carbon nanotube, where a part of the said catalyst substance is liquefied by heating (Kaner, col4).

Regarding applicant's claim 8, Kaner discloses linear structure and said catalyst substance is moved along structure (Kaner, col3).

Regarding applicant's claim 9, Kaner discloses where the catalyst substance is a catalyst particle and the diameter of said catalyst particle is .5 to 3 times as large as the diameter of said linear structure (Kaner, col7).

Regarding applicant's claim 16, Kaner discloses forming a carbon nanotube structure by introducing a catalyst substance, making said catalyst substance move in structure, crystallizing a trail region (Kaner, col3,4).

Regarding applicant's claim 17, Kaner discloses producing a wiring structure of carbon nanotube, comprising forming a carbon nanotube structure by introducing a catalyst substance, making said catalyst substance move in structure, crystallizing a trail region of movement of said catalyst (Kaner, col3,4).

### ***Response to Arguments***

4. Applicant's arguments filed October 22, 2009 have been fully considered but they are not persuasive:

a. With regards to claim 1, Applicant states that Uemura reference provides carbon nanotubes without using a catalyst. Examiner has

addressed this with a new reference Kaner where there is a catalyst and it is a solid.

b. With regards to claim 1, Applicant states that Uemura and Fujita reference provides carbon nanotubes where the carbon is a gas. Examiner has addressed this with a new reference Kaner where the carbon is a solid.

c. With regards to claims 1,3,4, 8,9 and 17, Applicant states that Uemura, Fujita, and Ota provide carbon nanotube with gas catalyst that is not moving. Examiner has addressed this with a new reference Kaner where the catalyst is solid and moving along a scalable route.

### ***Summary***

5. Claims 1,3,4,8,9,16,17 are rejected. Claims 18-23 are cancelled. Claims 2,5,6,7,10-15,24,25 are allowed. Claim 6 is read to require an actual CVD step.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Correspondence***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHELLE HOU whose telephone number is (571)270-5847. The examiner can normally be reached on Monday to Friday, 8AM EST to 5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stan Silverman can be reached on (571)272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

M.H.

/Stuart Hendrickson/

Primary Examiner, Art Unit 1793